

CLAIMS:

1. A method of recovering nickel from soil rich in nickel, comprising:
(a) growing a nickel hyperaccumulating plant selected from the genera *Alyssum* on said soil, while maintaining soil conditions such that the concentration of calcium in said soil is from about 0.128 mM to about 5 mM and said pH is maintained below about 7.0.

(b) allowing said growth to continue until such time as the concentration of Ni in the above ground tissues of said plant is at least 2.5%, gross dry weight of the above ground tissues,

(c) drying said above ground tissues, and

(d) recovering Ni from said above ground tissues.

2. The method of claim 1, wherein said above ground tissues are selected from the group consisting of shoots, leaves, above ground tissues other than shoots and leaves, and mixtures thereof.

3. The method of claim 2, wherein said above ground tissues are leaves.

4. The method of claim 1, wherein said soil conditions are maintained such that the ratio of exchangeable Ca/Mg is between about 0.16 - 0.40.

5. The method of claim 1, wherein said plant is selected from a species selected from the group consisting of *A. murale*, *A. pintodasilvae*, *A. malacitanum*, *A. lesbiacum*, *A. tenium*, and *A. fallacinum*.

6. The method of claim 5, wherein said plant is selected from a species selected from the group consisting of *A. murale* and *A. pintodasilvae*.


7. The method of claim 1, wherein the genotype of said plant is identical to that of the wild-type of said species and free of natural or induced mutation and heterologous DNA.

8. The method of claim 1, wherein said soil conditions are further maintained such that chelating agents which chelate Ni in the presence of Fe, Mg

and Ca are added to said soil and ammonium based N-fertilizer is added to said soil, both while said plant is being grown on said soil.

9. The method of claim 1, wherein said soil is serpentine soil.

10. The method of claim 1, wherein said soil is rich in Ni due to at least one industrial process which has deposited Ni in said soil.

11. A naturally occurring plant of the *Allysum* genus which has a concentration of nickel in its above-ground tissues of 2.5 - 5.0%, based on the gross dry weight of said tissues. 

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